

WHAT IS CLAIMED IS:

1. A deburring method comprising the steps of:

inserting a cutting tool into an open end portion of a through hole of an object to be processed, the cutting tool  
5 having a diameter being larger than that of the through hole and also having a cutting part that has a hemispherical leading end portion, at an angle at which the tool does not touch the remaining part of the object;

rotating the cutting tool while simultaneously making the  
10 leading end portion of the cutting tool obliquely abut against the open end portion of the through hole; and

removing a burr formed at the open end portion of the through hole.

15 2. A deburring method for removing a burr formed at an open end portion of a through hole that is opened to an inner surface of a fitting hole formed in an automotive knuckle, a wheel bearing being fitted into the fitting hole,

the deburring method comprising the steps of:

20 inserting a cutting tool into an open end portion of a through hole of an object, which is to be processed, at an angle at which the tool does not touch the remaining part of the knuckle, the cutting tool having a diameter being larger than that of the through hole and also having a cutting part that has a  
25 hemispherical leading end portion;

rotating the cutting tool while simultaneously making the leading end portion of the cutting tool obliquely abut against the open end portion of the through hole; and

removing the burr formed at an open end portion of a through  
5 hole.

3. An automotive knuckle comprising:

an inner surface; and

a bottom portion, wherein

10 a fitting hole to which a wheel bearing is fitted,  
a through hole opened in the inner surface of the fitting hole,

an open end portion of the through hole is deburred by inserting a cutting tool thereinto at an angle at which the  
15 tool does not touch the remaining part of the knuckle,

the cutting tool has a diameter being larger than that of the through hole and also has a cutting part that has a hemispherical leading end portion,

a burr formed at the open end portion of the through hole  
20 is removed by rotating the cutting tool while simultaneously making the leading end portion of the cutting tool obliquely abut against the open end portion of the through hole, and

a contour of the open end portion is shaped nearly like an ellipsoid having a major axis and a minor axis.

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4. The deburring method according to claim 1, wherein  
the angle of the cutting tool is 45 degree.

5 5. The deburring method according to claim 2, wherein  
the angle of the cutting tool is 45 degree.

6. The automotive knuckle according to claim 3, wherein  
the angle of the cutting tool is 45 degree.

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7. The deburring method according to claim 1, wherein  
the cutting tool is a ball end mill.

8. The deburring method according to claim 2, wherein  
15 the cutting tool is a ball end mill.

9. The automotive knuckle according to claim 3, wherein  
the cutting tool is a ball end mill.

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